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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Konrad Koeberle

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EXAMINER

KO, STEPHEN K

ART UNIT

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/550,052	<b>Applicant(s)</b> KOEBERLE ET AL.	
	<b>Examiner</b> STEPHEN KO	<b>Art Unit</b> 1792	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 20 September 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 13-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 13-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 September 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>09/20/2005</u> .  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Specification***

1. The abstract of the disclosure is objected to because the abstract is too long.

Correction is required. See MPEP § 608.01(b).

Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

2. The disclosure is objected to because of the following informalities: "Ab exchangeable spray lance having a variable diameter..." (P.2, Line 13 of the specification) is apparently should be written as "An exchangeable spray lance having a variable diameter...".

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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4. Claims 13-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Schwarze et al (US 5,366,562).

Schwarze et al teach a cleaning device for removing residue by a jet of fluid droplet (read as spray cleaning a component, abstract) comprising a pneumatic storage means (read as receiver tank, Fig.1, #5, col.4, L.49) being capable of holding water (read as flushing medium, col.4, L.45), wherein an inlet side of the pneumatic storage means (Fig.1, unlabeled, the inlet connecting line #9) is pressurized using compressed air (col.4, L.45) from an air pump (read as compressed air source, Fig.1, #7, col.4, L.46); a calibrated valve (read as spray lance, Fig.1, #21, col.4, L.65) for pressurized spraying of a strainer plate (read as component, Fig.1, #23, col.5, L.21) using the water, wherein the calibrated valve is connected to an outlet side of the pneumatic storage means (Fig.1, unlabeled, the outlet portion of the pneumatic storage means connecting line #14); a waste water funnel (read as collection tank, Fig.1, #24, col.5, L.39-40) positioned being capable to collect water and residue after the pressurized spraying of the strainer plate; and a filter (Fig.1, #25, col.5, L.40) coupled to an outflow side of the waste water funnel (Fig.1, unlabeled, the outlet of the waste water funnel #24 connecting the filter #25), wherein the residue is fully capable of being removed and collected by the filter from the waste water funnel and the water and the residue is sucked from the waste water funnel through the outflow side by using a high pressure pump (read as vacuum pump, Fig.1, #2, col.4, L.40-41).

For claim 14, note that the calibrated valve is connected to a flexible hose (Fig.1, #20, col.5, L.10), which is coupled to the line #14 via a hose coupling (Fig.1, #19, col.5, L.10), which is fully capable to interchangeably attach to the pneumatic storage means.

For claims 15 and 16, note that a compressed air line (Fig.1, #9, col.4, L.47) leading from the air pump to the pneumatic storage means transmits the compressed air, wherein the compressed air line has an air check valve (read as first valve, Fig.1, #10, col.4, L.47), which is fully capable for at least one of regulating and setting of the pressure of the compressed air.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein

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were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claims 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schwarze et al (US 5,366,562) in view of Schommer (US 2003/0010852).

Schwarze et al teach the cleaning apparatus cited above.

For claim 17, Schwarze et al do not teach a pre-filter positioned between the receiver tank and the spray lance.

However, Schommer teaches a cleaning apparatus (title) comprising a filter (read as pre-filter, Fig.6A, #82, paragraph [0040]) located between a nozzle (Fig.3, #36, paragraph [0039]) and a water hose (read as water supply, Fig.2, #22, paragraph [0025]).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the cleaning apparatus of Schwarze et al by adding a pre-filter for the flushing medium, wherein the pre-filter is positioned between the receiver tank and the spray lance as mentioned in Schommer to filter out impurities and particulates (Schommer, paragraph [0040]) and prevent the spray lance being clogged.

For claim 18, note that Schwarze et al teach a valve (read as second valve, Fig.1, #15, col.4, L.60), which is fully capable for at least one of regulating and setting one of the pressure and the volume of the water transmitted to the calibrated valve.

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Regarding to the position of the valve, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the cleaning apparatus of combined teaching of Schwarze et al and Schommer to position the valve between the pre-filter and the receiver tank, as a matter of design choice, since the position of the valve would not have been modified the operation of the cleaning apparatus.

9. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schwarze et al (US 5,366,562) in view of Gilliam, Jr. et al (US 5,228,467).

Schwarze et al teach the cleaning apparatus cited above.

Schwarze et al do not teach the spray lance is connected to a metering valve.

However, Gilliam, Jr et al teach a cleaning system comprising a metering valve (Fig.1, #26, col.2, L.66) connected to a spray bar (Fig.1, #16, col.2, L.60).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the cleaning apparatus of Schwarze et al to connect the spray lance to a metering valve as mentioned in Gilliam, Jr et al to provide a desired rate of the flushing medium flow.

10. Claims 20-21 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bradley et al (US 2004/0107782) in view of FR 2 704 780.

Bradley et al teach a method of rinsing and testing the presence of contaminant of a surface (read as spray cleaning and residual contaminant analysis of a component, paragraph [0062] and title) comprising the steps of spraying a liquid from a sample tool tube (Fig.3, #22, paragraph [0062]) through a sampling tool (read as spray cleaning, Fig.3, #20, paragraph [0062])(read as spray cleaning the component by spraying the

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flushing medium from the spray lance, paragraph [0062]); drawing and returning a rinse solution to a collection unit (Fig.3, #16, paragraph [0062]) immediately after the rinse solution is sprayed onto the surface and (read as collecting contaminant-particles-containing flushing medium in a collection tank after the spray cleaning, Fig.3, #46, paragraph [0062]); providing a filter (read as analysis filter, Fig.4, #54, paragraph [0064]) positioned on an outflow side of the collection unit (Fig.4, unlabeled, the top opening of a fluid chamber #46), whereby the rinse fluid in a fluid chamber (Fig.4, #46, paragraph [0064]) would be drawn through the filter (paragraph [0064]); and removing the filter and testing for the presence of the contaminant (read as filtering the contaminant particles out of the contaminant-particles-containing flushing medium by the analysis filter; and analyzing the contaminant particles filtered out by the analysis filter, paragraph [0064]).

Bradley et al do not teach the steps of providing a receiver tank filled with a flushing medium; pressurizing the receiver tank on an inlet side using compressed air from a compressed air source; and transmitting the flushing medium from the pressurized receiver tank to a spray lance.

FR 2 704 780 teaches a method of cleaning surface comprising the steps of providing a tank (Fig.1, #2, abstract) filled with a liquid chemical solution (read as flushing medium, abstract); and propelling the tank by controlled pressurized air from another tank (read as compressed air source, Fig.1, #1, abstract) and atomized by a projection nozzle (read as spray lance, Fig.1, #23, abstract) (read as pressurizing the receiver tank on an inlet side using compressed air from a compressed air source; and



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transmitting the flushing medium from the pressurized receiver tank to a spray lance, abstract). Note that FR 2 704 780 teach an inlet side (Fig.1, #13) of the tank (Fig.1, #2, abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of Bradley et al by having the steps of providing a receiver tank filled with a flushing medium; pressurizing the receiver tank on an inlet side using compressed air from a compressed air source; and transmitting the flushing medium from the pressurized receiver tank to a spray lance as mentioned in FR 2 704 780 to provide three spray cleaning working hours, while consumes 3 minutes of electrical energy for charging the air tank (FR 2 704 780, abstract), hence reduce the energy consumption for applying the method.

For claim 21, note that FR 2 704 780 teaches a step of providing a regulator (Fig.1, #10) and pressure gauge (Fig.1, #11) being charged to reduce to 3 or 4 Bars the pressure (read as the compressed air is one of regulated and set to a selected value).

For claim 25, Both Bradley et al and FR 2 704 780 do not teach the analyzing is performed by one of optical microscopy and scanning-electron microscopy. Note that Bradley et al teach a step of testing the presence of the contaminant of interest, such as microorganism (Bradley et al, paragraph [0064]). However, examiner takes official notice that analyzing microorganism by using optical microscope (read as optical microscopy) is well known in the art of analyzing and testing microorganism. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of combined teaching of Bradley et al and FR 2 704 780 by having

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a step of analyzing microorganism by an optical microscopy to identify the microorganism, which leads to the contamination.

11. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bradley et al (US 2004/0107782) in view of FR 2 704 780 in further view of Schommer (US 2003/0010852).

Bradley et al and FR 2 704 780 teach a method for spray cleaning and residual contaminant analysis of a component cited above.

Bradley et al and FR 2 704 780 do not teach the step of providing a pre-filter to pre-filter the flushing medium transmitted to the spray lance.

Schommer teaches a step of providing a filter (read as pre-filter, Fig.6A, #82, paragraph [0040]) located between a nozzle (read as spray lance, Fig.3, #36, paragraph [0039]) and a water hose (read as water supply, Fig.2, #22, paragraph [0025]). Note that the filter of Schommer inherently pre-filter the flushing medium transmitted to the nozzle.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of combined teaching of Bradley et al and FR 2 704 780 by providing a pre-filter to pre-filter the flushing medium transmitted to the spray lance as mentioned in Schommer to filter out impurities and particulates (Schommer, paragraph [0040]) and prevent the spray lance being clogged.

12. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bradley et al (US 2004/0107782) in view of FR 2 704 780 and Schommer (US 2003/0010852) in further view of Bude et al (US 5,925,193).

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Bradley et al, FR 2 704 780 and Schommer teach a method for spray cleaning and residual contaminant analysis of a component cited above.

Bradley et al, FR 2 704 780 and Schommer do not teach a step of providing the spray lance such that it is configured to be exchangeable as a function of the component geometry.

Bude et al teach a step of providing an exchangeable nozzle such that the geometry of the nozzle is adjustable according to the pre-determinable surface to be cleaned (read as the spray lance is configured to be exchangeable as a function of the component geometry, col.6, L.56-60).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of combined teaching of Bradley et al, FR 2 704 780 and Schommer by adding a step of providing the spray lance such that it is configured to be exchangeable as a function of the component as mentioned in Bude et al to enhance and make an effective cleaning of a pre-determinable surface (Bude et al, col. 2, L.48-49).

13. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bradley et al (US 2004/0107782) in view of FR 2 704 780 in further view of Nuxhall et al (US 4,020,676).

Bradley et al and FR 2 704 780 teach a method for spray cleaning and residual contaminant analysis of a component cited above.

Bradley et al and FR 2 704 780 do not teach the step of providing a vacuum pump situated downstream of the analysis filter on the outflow side of the collection tank

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to aid the contaminant-particles-containing flushing medium to flow through the analysis filter.

Nuxhall et al teach a method for collecting fluid contaminants comprising the step of providing a vacuum pump (Fig.1, #28, col.3, L.14) situated downstream of a filter (Fig.1, #30, col.3, L.9) to assist a contaminated fluid in passing through the filter (col.3, L.16-17).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of combined teaching of Bradley et al and FR 2 704 780 by having a step of providing a vacuum pump situated downstream of the analysis filter as mentioned in Nuxhall et al to assist a contaminated fluid in passing through the filter (Nuxhall et al, col.3, L.16-17). Regarding to situating a vacuum pump on the outflow side of the collection tank, one skilled in the art would have been found obvious to shift the position of the vacuum pump, as a matter of design choice, as shifting the vacuum pump on the outflow side of the collection tank would not have modified the operation of the device, Consult, In re Japikse, 181 F.2d 1019, 86 USPQ 70 (CCPA 1950).

### ***Election/Restrictions***

14. Applicants' attention is drawn to the fact that the instant claims are directed to at least two inventions, which are not so linked as to form a single general inventive concept under PCT Rule 13.1 – a method for low-pressure spray cleaning and residual contaminant analysis of a component, represented by claims 20-25 (Group I) and a low-pressure spray module for spray cleaning a component, represented by claims 13-19

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(Group II). It is noted that the inventions listed as Groups I and II do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: a low-pressure spray module for spray cleaning a component as claimed is known in the art. The restriction requirement is not made at this time, however it may be imposed later if the claims are amended to introduce additional limitations to each invention, which would require an additional search in each Group of claims.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to STEPHEN KO whose telephone number is (571)270-3726. The examiner can normally be reached on Monday to Thursday, 7:30am to 5:30pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Kornakov can be reached on 571-272-1303. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

SK

/Michael Kornakov/  
Supervisory Patent Examiner, Art Unit 1792